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10/509,850	09/30/2004	Gerard Barbezat	015258-063900US	4308
20350	7590	08/29/2006	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			BAREFORD, KATHERINE A	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/509,850

Applicant(s)

BARBEZAT ET AL.

Examiner

Katherine A. Bareford

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 July 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 12-42 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

*Claims 1-11 are canceled.*

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. The amendment of July 21, 2006 has been received and considered.

With the amendment, claims 1-11 have been canceled, and new claims 12-42 have been provided for examination.

### *Specification*

2. The substitute specification filed July 21, 2006 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because:

The substitute specification contains (1) an improper incorporation by reference. See paragraph [0001]. The US Patent No. 5,853,815 was not previously incorporated by reference so it cannot be incorporated by reference at this point.

The substitute specification also contains (2) new matter. At paragraph [0006] the reference to "Lower-density or material-deficient" transitional zones is new matter. This does not correspond to the previously described "low material" transitional zones (which as previously noted was confusing as to what the term meant). This new matter is also present in paragraph [0014].

3. The abstract of the disclosure filed July 21, 2006 is objected to because the newly filed abstract contains new matter.

The reference to the "material-deficient zones" contains new matter as discussed in the paragraph above.

Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities: (1) at page 1, line 7; page 3, line 13; and page 4, lines 6 and 9; applicant needs to remove references to the claims. (2) headings, such as BRIEF DESCRIPTION OF THE DRAWINGS, SUMMARY OF THE INVENTION, etc. should be provided where appropriate in the specification.

Appropriate correction is required.

This objection remains from the last Office Action because as discussed in paragraph 2 above, the substitute specification of July 21, 2006 has not been entered.

#### *Claims*

5. Please note that (1) in claim 38, lines 4-6, "which preferably has a structure . . . unidirectional structure" does not further limit the claim as the terminology is optional. (2) in claim 39, lines 4-6, "which preferably has a structure . . . unidirectional structure" does not further limit the claim as the terminology is optional.

#### *Claim Objections*

6. The objection to claim 7 under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim is withdrawn due to the July 21, 2006 cancellation of claim 7.

7. The objection to claims 1 and 3 because of informalities is withdrawn due to the July 21, 2006 cancellation of claims 1-3.

*Claim Rejections - 35 USC § 112*

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 12-42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In new claim 12, applicant has provided (1) at lines 10-13 features as to the control of the powder conveying rate. However, in the disclosure as originally filed, the only teaching of powder conveying rates was 5-60 g/min and no indication was made as to control of the powder conveying rates out of this range. Therefore, this amendment contains new matter. (2) at lines 14-17 applicant has provided features as to the control of the process pressure. However, in the disclosure as originally filed, it is specifically taught that the pressure must be less than 10,000 Pa (see original claim 1, the original abstract, etc.) and <sup>NO</sup> indication was made as to control of the pressure outside this

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range. Therefore, this amendment contains new matter. (3) at lines 16-21, applicant has provided features as to control of the gas flow rate. However, in the disclosure as originally filed, the only teaching of gas flow rate was the range of 30 to 150 SLPM and no indication was made as to control of the gas flow rate out of this range. Therefore, this amendment contains new matter. (4) at lines 12, 16, and 20, reference is made to "material-deficient zones". These references are new matter. They does not correspond to the previously described "low material" transitional zones (which as previously noted was confusing as to what the term meant). (5) at lines 8-9, reference is made to evaporating "approximately 5-30%" of the powder coating material. This is new matter. The originally filed disclosure indicated that "at least 5% by weight" was evaporated, not "approximately 5%". Furthermore, units (wt%) are not provided as to the amount.

In new claim 15, a coating thickness range of greater than 100 microns is claimed. This is new matter, because as previously described in the originally filed disclosure, an upper limit of 1000 microns was present, and this claim has no such upper limit.

In new claims 27 and 28 the reference to "laser scanning" is new matter. As previously described in the originally filed disclosure, the term was "laser scattering".

The other dependent claims do not cure all the defects of the claims from which they depend.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. The rejection of claims 1-11 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention are withdrawn due to the July 21, 2006 cancellation of the claims.

12. Claims 12-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12, at lines 8-9, reference is made to evaporating "approximately 5-30%" of the powder coating material. This is confusing because units (such as wt%) are not provided as to the amount. Therefore as worded, the units could be volume % or atomic %, for example.

The other dependent claims do not cure all the defects of the claims from which they depend.

### *Double Patenting*

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 12-42 are provisionally rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 1, 2, 4, 5, 9 and 12 of copending Application No. 10/835,358 in view of Muehlberger (US 5853815).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of 10/835,358 provide overlapping requirements as to the claims including the injection of coating material into a plasma (claim 2), partial or complete evaporation of the coating material, and the structural features (claim 12 – columnar). While the claims of 10/835,358 does not teach the substrate material, layer features and low pressure plasma features, Muehlberger teaches that a conventional system for plasma production for coating is a low pressure plasma spraying system for coating metallic substrates with a pressure of desirably 0.001 to 10 Torr (0.133 to 1333 Pa). Column 7, lines 20-50 and column 8, lines 50-55. The plasma gas can include Ar/He mixtures. Column 10, lines 20-30. The gas flow can be 267 SCFH or 126 SLPM.



Column 10, lines 20-30. The powder delivery can be 2.61 lbs/hr or 19.71 g/min.

Column 10, lines 50-55. The coating can be from multiple layers. Column 10, lines 55-65. The coating can be 0.0011 inch thick (approx. 27 microns). Column 11, lines 1-5. The particle size can be 5-8 microns. Column 10, lines 50-55. It would have been obvious to one of ordinary skill in the art to modify 10/835,358 to use the low pressure plasma system and features as suggested by Muehlberger to provide the plasma with an expectation of desirable results, because 10/835,358 teaches treating performing a coating and evaporation process where particles can be injected into a plasma, and Muehlberger teaches a conventional plasma system for coating. As to the multilayers and heat insulation and bond coat layers, the Examiner notes that 10/835,358 teaches at claim 5 the use of materials well known in the art as bond coat and heat insulation materials and also teaches heat insulation at claim 12 and furthermore it is the Examiner's position that it is well known in the art to apply such materials to gas turbine components.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

15. Applicant argues in the amendment of July 21, 2006 that the double patenting rejection is now moot in view of the cancellation of claims 1-11 and that they are prepared to file a terminal disclaimer should the need arise when one or the other of the applications has allowed claims.

The Examiner notes the cancellation of claims 1-11, however, the rejection now applies to new claims 12-42 as discussed above. As well, the rejection is maintained as, while a terminal disclaimer was referred to, one has not yet been filed.

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. Claims 12-13, 16-22, 25 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 96/06200 (hereinafter '200).

'200 teaches a method of forming a coating on a substrate using a low pressure plasma spray, using a coating in the form of a powder beam for spraying onto a surface of a substrate. Figure 1 and pages 6-10. The plasma spray is operated to produce a plasma stream which delivers the coating material to the substrate. Figure 1 and page 10. The operating includes introducing plasma gas into a plasma gun to establish plasma gas operating conditions. Page 9. '200 does not specifically teach that approximately 5-30 wt% of the particles or evaporated, or that conditions are controlled to provide an anisotropic columnar microstructure, however, '200 provides coating materials and conditions that overlap with that taught by applicant to provide such results. Therefore, it would be inherent that the vaporization and anisotropic structure

would occur. For example, '200 teaches that the powder can be a ceramic oxide (as claim 25). Page 19 (claims 12-13). The powder conveying rate can be 30 g/min (within the ranges of claims 21-22). Page 9. The process pressure can be 399.96 to 666.6 Pa (within the ranges of claims 13 and 16-17). Page 8. The gas flow rate can be of a mixture of inert gases having a total flow rate of 54 SLPM, for example(- 30 SLPM argon and 24 SLPM helium), and the volume ratio can be in the range of 2:1 to 1:4 (as in claims 19-20). Page 9. The power can be anything greater than 40 kW (as in claim 18). Page 8. The particle size can be 3-10 microns. Page 9.

Claims 13, 16, 17: The process pressure can be 399.96 to 666.6 Pa. Page 8.

Claims 18: The power can be anything greater than 40 kW. Page 8.

Claims 19-20: The gas flow rate can be of a mixture of inert gases having a total flow rate of 54 SLPM, for example(- 30 SLPM argon and 24 SLPM helium), and the volume ratio can be in the range of 2:1 to 1:4. Page 9.

Claims 21-22: The powder conveying rate can be 30 g/min. Page 9.

Claim 25: the powder can be a ceramic oxide. Page 19 (claims 12-13).

Claim 33: the coating would be inherently heat insulating as a ceramic oxide layer would be applied over it, which would provide at least some degree of insulation. Page 19 (claims 12-13).

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18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

20. The rejection of claims 1-11 under 35 U.S.C. 103(a) as being unpatentable over Maxwell (US 5824423) in view of Muehlberger (US 5853815) and Marszal et al (US 5792267) is withdrawn due to applicant's July 21, 2006 cancellation of the claims.

21. Claims <sup>23-24</sup>~~22-23~~ and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 96/06200 (hereinafter '200).

'200 teaches all the features of these claims, as taught in the 35 USC 102(b) rejection above, except for the movement of the substrate, the laser scanning and the spray drying to make the particles.

'200 does teach that the particle size can be 3-10 microns. Page 9. '200 provides a moving plasma defocused beam. Pages 6-7 and figure 1.

It is the Examiner's position that it is well known to determine size distribution of powder particles using a laser scattering or scanning method. It is also the Examiner's position that it is well known to make thermal spraying powders by a spray drying method. If applicant disagrees, he should so indicate on the record in response.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify '200 to check the size of the particles using a laser scanning or scattering method in order to confirm that the desired size was present as it is well known to determine size distribution by such a method. It would further have been obvious to modify '200 to use powders made by a spray drying method as this is a well known method in the art to make powders for thermal spraying. It would further have been obvious to modify '200 provide that the substrate is moved with rotational or pivotable movements relative to the plasma beam with an expectation of desirable coating results, because '200 provides movement of the substrate and plasma beam and this relative movement would provide the same conditions as if the substrate is moved rotationally or pivotably.

22. Claims 14-15 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over '200 as applied to claims 12-13, 16-22, 25 and 33 above, and further in view of Muehlberger (US 5853815).

'200 teaches all the features of these claims except for the coating thickness from a plurality of layers (claims 14-15) and the heating (claims 30-32).

However, Muehlberger teaches a plasma spray system for forming coatings of metallic oxides or other materials on metallic substrates. Column 1, lines 10-15. The system provides for low pressure plasma spraying where powder beam source is mixed with and becomes entrained with the plasma stream, where the powder particles heat to near melting. Column 7, lines 20-30 and column 8, lines 30-55. In such a system, a pressure of desirably 0.001 to 10 Torr (0.133 to 1333 Pa) is used. Column 7, lines 20-50 and column 8, lines 50-55. The power used can be up to 100 kW, including 84.6 kW. Column 10, lines 15-30. The plasma gas can include Ar/He mixtures. Column 10, lines 20-30. The gas flow can be 267 SCFH or 126 SLPM. Column 10, lines 20-30. The powder delivery can be 2.61 lbs/hr or 19.71 g/min. Column 10, lines 50-55. The coating can be from multiple layers. Column 10, lines 55-65. The coating can be 0.0011 inch thick (approx. 27 microns). Column 11, lines 1-5. The particle size can be 5-8 microns. Column 10, lines 50-55. An additional heat source can be provided to preheat the particles to a predetermined temperature before injecting. Column 9, lines 15-30.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify '200 to optimize coating thickness based on the final

product desired as suggested by Muehlberger in order to provide an optimal coating thickness as '200 teaches using a low pressure plasma spray system and Muehlberger teaches that multiple layers can be put down of various thickness when using a low pressure plasma spray system. It would further have been obvious to modify '200 to provide an additional heat source and optimize its temperature range based on the coating to be applied as suggested by Muehlberger in order to provide an optimum coating as '200 teaches using a low pressure plasma spray system and that a heating process can be used before and after (pages 7-8) and Muehlberger teaches that it is desired to provide an additional heat source to preheat the particles, for example, when performing low pressure plasma spraying.

23. Claims 26 and 34-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over '200 as applied to claims 12-13, 16-22, 25 and 33 above, and further in view of Zheng (US 5817372).

'200 teaches all the features of these claims except for the use of zirconia (claim 26) and the thermal barrier features (claims 34-39).

However, Zheng teaches that it is desired to apply a thermal barrier (heat insulating) coating system using a low pressure plasma spray process (vacuum plasma spray). Column 4, lines 5-50. The system includes a substrate that can be a turbine blade. Column 3, line 60 through column 4, line 10. The substrate can be a nickel or cobalt base alloy. Column 4, lines 5-15. The substrate can have a lower bond coating

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also applied by low pressure plasma spray. Column 4, lines 45-50. The bond coating can be Me Cr Al Y, with Me being Fe, Co or Ni. Column 4, lines 35-40. The applied system can be heat treated. Column 6, lines 25-40. The ceramic coating can be yttria (the oxide form of yttrium) stabilized zirconia. Column 4, lines 10-20.

It is the Examiner's position that it is well known in the thermal spraying art for the bond coating of a thermal barrier coating to be 25-150 microns thick. If applicant disagrees, he should so state on the record in response.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify '200 to apply a thermal barrier coating including a bond coating and yttria stabilized zirconia coating to a turbine blade with a nickel or cobalt base alloy substrate and then to heat treat the system as suggested by Zheng in order to provide a desirable coating system as '200 teaches using a low pressure plasma spray system for ceramics and Zheng teaches that it is desirable to use low pressure plasma spray to provide a thermal barrier coating system including a bond coating and yttria stabilized zirconia coating to a turbine blade with a nickel or cobalt base alloy substrate and then to heat treat the system. It further would have been obvious to modify '200 in view of Zheng to perform the coating of the layers in a single work cycle to provide efficient coating because both layers are applied by low pressure plasma spray. It would also have been obvious to modify '200 in view of Zheng to provide the bond coating thickness in the range of 25 to 150 microns with an expectation of desirable coating results because bond coats are conventionally of that thickness.



24. Claims 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over '200 in view of Zheng as applied to claims 26 and 34-39 above, and further in view of Hasz et al (US 5660885).

'200 in view of Zheng teaches all the features of these claims except for the use of the cover coating.

However, Hasz teaches that after a thermal barrier coating of zirconia is applied, it is desirable to apply a top coating of a protective oxide. Column 1, lines 5-25. The coating can be smoother based on the methods that can be used to apply. Column 4, lines 15-25. The coating can be 1 mil thick (approx. 25 microns). Column 6, lines 5-20. The coating can be similar to the zirconia as it can be another metal oxide. Column 3, lines 60-65.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify '200 in view of Zheng to apply a protective coating as described by Hasz in order to provide a desirable coating system as '200 in view of Zheng teaches using a low pressure plasma spray system to apply a thermal barrier coating system and Hasz teaches the desire to protect such a system by applying a protective layer on top.

25. The Examiner notes that WO 96/06200 was provided in applicant's Sept. 30, 2004 IDS.

*Response to Arguments*

26. Applicant's arguments with respect to claims 12-42 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

27. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571)

272-1413. The examiner can normally be reached on M-F(6:00-3:30) with the First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and for After Final communications.

Other inquiries can be directed to the Tech Center 1700 telephone number at (571) 272-1700.

Furthermore, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
KATHERINE BAREFORD  
PRIMARY EXAMINER